RESTRICTED CIRCULATION

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Agricultural Memorandum No 435

Seasonal Distribution of Rainfalls of 30/20/10 mm

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Ag. Memo. 430 dealt with annual totals of rainfall occasions of 30 mm or more, 20 mm or more, 10 mm or more in 1, 3, and 7 days from a sample of 12 low average rainfall stations, namely:-

Shoeburyness		
Cambridge	Durham	Oxford
Sprowston	York	Kew
Gorleston	Wakefield	E. Malling
Cranwell		
Sandringham		

for the years 1951-1960

The monthly distributions were examined and little significant difference could be found between the three areas, east, north and south-east, with the exception to higher falls in May in the north, and in autumn in the south-east. These were possibly due to the short length of sample (10 years) and have been ignored.

The seasonal distribution, in terms of total occasions in 10 years is given in the Appendix for each station.

The monthly percentages of total were smoothed as follows

$\frac{1}{4}$ (preceding month) + month in question + $\frac{1}{4}$ (succeeding month) divided by $1\frac{1}{2}$.

This allows somewhat for any slight change in monthly climate.

The results are given in the Appendix.

Ag. Memo. 430 gave a method for obtaining the total number of occasions. Its presumed monthly distribution can now be obtained by use of these percentages.

Any comments or suggestions on this paper should be refered to the author.

Meteorological Office
Bracknell
April 1972

Occasions in 10 years of 30 mm rainfall

	in 1 day				in 3 days				in 7 days			
	Spring	Summer	Autumn	Winter	Spring	Summer	Autumn	Winter	Spring	Summer	Autumn	Winter
Shoeburyness	0	5	5	0	4	26	30	3	28	135	127	35
Cambridge	1	3	0	0	9	17	10	3	47	101	76	45
Sprowston	0	1	1	1	4	11	14	9	32	86	89	91
Gorleston	0	3	2	0	7	22	16	5	28	103	123	78
Cranwell	1	5	1	2	8	22	10	15	51	80	88	77
Sandringham	0	2	1	2	2	17	5	12	52	124	109	112
Durham	2	1	2	1	12	19	20	6	50	97	91	66
York	1	2	1	0	7	28	14	5	37	117	104	68
Wakefield	4	0	3	1	14	15	18	13	50	116	125	90
Oxford	0	5	2	2	7	24	24	13	61	134	141	113
Kew	0	4	2	0	3	19	26	7	37	117	126	62
E. Malling	0	5	6	0	5	24	41	10	45	161	185	123

Occasions in 10 years of 20 mm rainfall

	in 1 day				in 3 days				in 7 days			
	Spring	Summer	Autumn	Winter	Spring	Summer	Autumn	Winter	Spring	Summer	Autumn	Winter
Shoeburyness	4	17	14	2	27	62	68	20	98	207	231	133
Cambridge	3	12	6	3	25	64	39	26	112	250	190	146
Sprowston	0	7	9	4	16	56	49	37	102	221	225	210
Gorleston	2	11	7	3	11	61	52	39	83	234	238	175
Cranwell	4	10	5	6	33	55	43	47	138	218	207	162
Sandringham	4	10	2	4	33	67	50	58	150	269	252	240
Durham	7	7	6	2	36	59	48	35	126	218	197	188
York	2	15	6	3	28	66	48	37	102	261	221	205
Wakefield	6	10	11	4	42	70	62	43	140	243	235	216
Oxford	4	11	7	6	37	72	80	50	156	251	273	268
Kew	2	12	8	2	21	58	70	28	118	225	258	179
E. Malling	2	12	17	4	30	63	103	50	142	220	281	246

Occasions in 10 years of 10 mm rainfall

	in 1 day				in 3 days				in 7 days			
	Spring	Summer	Autumn	Winter	Spring	Summer	Autumn	Winter	Spring	Summer	Autumn	Winter
Shoeburyness	22	47	48	19	89	174	180	121	257	464	400	384
Cambridge	20	47	39	25	112	196	177	125	305	458	426	366
Sprowston	18	47	38	31	103	198	186	172	313	486	479	507
Gorleston	13	57	46	30	96	208	193	159	285	460	476	463
Cranwell	27	40	33	25	125	190	162	130	315	453	389	380
Sandringham	25	43	51	40	137	200	205	200	363	475	515	511
Durham	23	52	44	30	95	181	177	161	278	446	420	450
York	23	48	50	33	98	202	189	153	314	512	445	405
Wakefield	24	62	47	37	104	212	185	175	292	482	423	436
Oxford	31	54	58	40	140	211	220	211	351	467	479	469
Kew	22	47	60	28	104	195	205	161	277	439	435	422
E. Malling	24	44	60	39	114	178	217	205	295	437	470	489

Smoothed Monthly Percentages of Total falls of rain (all areas)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
In 1 day												
30 mm	4	1	0	3	9	14	14	15	13	12	8	7
20 mm	5	2	1	3	8½	11	12	17½	13	11	9	7
10 mm	7	6	5	4	7	8	10	13	11	10	11	8
In 3 days												
30 mm	6	3	2	3	7	9	11	16	12	11½	11½	8
20 mm	7	6	4	4	7	8	10	14	10	10	11	9
10 mm	9	7	6	5	6	8	10	11	10	9	10	9
In 7 days												
30 mm	8	6	4	3	6	7	9	13	11	10	13	10
20 mm	8	7	5	4	6	8	10	12	9	10	11	10
10 mm	9	8	6	6	7	8	9	10½	9	9	9½	9